

*(Re)Drawing the Flood Line: Symbiotic Urban – Ecological Gateway to Cincinnati.*

*Andrew Tetrault / University of Cincinnati / Summer 2020*

*Site: Fulton Place, Cincinnati*

The project investigates how Fulton Place, the 37-acre river gateway to Cincinnati, could engage in a symbiotic relationship with the devastating annual floods. The site on the Ohio River waterfront once operated as the city's service yard for shipping, goods transfers, and industry, is underutilized and subject to economic speculation. The challenge is that the 500-year flood coincides with a natural line in the topography, splits the site into two narrow strips with a 10 ft elevation drop. Conceptually, the challenge was capitalized on to develop an urban and ecological solution; a saw-toothed riverfront edge that allows the Ohio river's floodwater to enter and leave the site naturally, allowing the hydrology to function as breathing. 50% of the landscape is floodable and alternates between purifying flood water during monsoon and urban agriculture on fertile flood soils when the water recedes in Summer. The natural fault line results from the erosion and coinciding with the 500-year flood line is crucial. This central backbone of the site, running parallel to the river, is redrawn as a sawtooth-shaped promenade, a social and ecological landscape feature. Ecologically the promenade stabilizes the erosion-prone site, retaining the upper half soil and separating it from the floodable alluvial low-lying areas of the riverfront. Socially, the promenade connects districts of varying building typologies, holding public attractions offset by walkable distance to incentivize pedestrian movement.

The development is a seamless extension of the existing urban fabric. The promenade starts on the South end as an extension of the Cincinnati park system and blends into the North end as the adaptive reuse of the historic district. Situated between the two ends is the extension of Riverside Drive, the central gateway into the commercial center of the development. This district is a typical example of the urban concept of mixing urban agriculture with office-residential development. The promenade divides the high-rise mixed-use towers with spectacular views of the Cincinnati and Northern Kentucky riverfronts and the lower urban agricultural greenhouses and marketplace in the fertile floodable land. The development promotes sustainable transit; the promenade and trails promote pedestrian and bicycle movement. The permeable riverfront edge is punctuated with six water taxi docks to create recreational activities and transportation across the river to the Kentucky side. At the same time, bus stations line the upper Riverside drive.

The project smartly leverages the annual flood issue on prime real estate to create a resilient urban development. Moreover, the development helps sustain the larger ecosystem to harvest water and purify storm and floodwater from the northern hillside and southern river edge. The "fingers-like districts," forming the saw tooth river edge, collect stormwater on Riverside drive road through bioswales, move it across the site through creating therapeutic gardens for public use while purifying it before depositing it in the flood collection ponds along the river. The architecture also uses rooftops to step down towards the river, to move stormwater through native species on green roof gardens to conduct responsible environmental stewardship.